

Commonwealth of Kentucky
Division for Air Quality
EXECUTIVE SUMMARY

FINAL

Title V, Operating

Permit: V-08-016

Kingsford Manufacturing Company

Burnside, KY 42519

December 1, 2008

Massoud Kayvanjah

SOURCE ID: 21-199-00018

AGENCY INTEREST: 3816

ACTIVITY: APE20080001

SOURCE DESCRIPTION:

On May 5, 2008, Kingsford Manufacturing Company (KMC) at Burnside applied to the Division for the renewal of their permit V-03-018 R3. KMC manufactures charcoal briquets mixed with additives (Limestone, Starch, and Solvent).

The facility is classified as a Title V major source of air pollution based on emissions of more than 100 tons per year of particulate matter less than 10 micrometers (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), and volatile organic compounds (VOC).

A minor modification was received from KMC on July 1, 2007 and a revised version on September 26, 2008 for the solvent briquette (STB) production line. This modification is to improve the process capability, product application accuracy, increase the volume of the solvent dip tank, increase briquette optimal residence time and add additional coating devices at the dip tank exit. Also a portion of the circulating solvent will be returned and allowed to flow into the briquets. The centrifuge system will be replaced with an alternative system to improve the recycling system's reliability. Weighing belts will be installed at the inlet and the outlet of the solvent dip tank to more accurately measure the solvent content of the briquets produced at the STB line. In order to minimize emissions, the facility will utilize a chiller to maintain the solvent temperature in the dip tank below 50°F as required in the existing TV operating permit, while the exhaust fumes from the STB line are routed to the ACC, which provides a residence time of 2 second at temperatures greater than 1400°F. Potential emissions of volatile organic compounds (VOC) from the proposed project does not trigger significant emission rate per 401 KAR 51:001, Section 1(224), because the total is 36 tons per year. Based on actual to projected actual analysis in 401 KAR 51:017, Section 1 (4)(a)1, a projected actual annual STB production will increase by a maximum of 30, 367 tons over the next five years. The baseline actual was computed as the average of 2006 and 2007 years, and the projected actual based on STB production anticipated rate for the next five year period following the modification between 2008 and 2012 period, which is detailed in the tables B1 through B3 below. The modification does not change the emission limitation in the permit

Table B1

Source	STB Production	VOC Emissions
	(tons/yr)	(tons/yr)
Baseline Actual Emissions		
2006	33,159	40.51
2007	33,050	40.38
Average	33,105	40.45
Projected Actual Emissions		
36 tpy VOC increase	63,471	76.45
Net Increases		
Actual to Projected Actual	30,367	36.00
PSD Significance Levels		40

Baseline actual emissions are the average of actual 2006/2007 emission rates.

Table B2

Year	Source	STB ^a Production	VOC Emission Factor ^b	VOC Emissions
		(tons/yr)	(lbs/ton)	(tons/yr)
2006	STB Application (Controlled)	33,159	0.141	2.34
	STB fines	33,159	2.23	36.97
	Tanks & Piping	N/D	N/D	1.2
	Total			40.51
2007	STB Application (Controlled)	33,050	0.141	2.33
	STB fines	33,050	2.23	36.85
	Tanks & Piping	N/D	N/D	1.2
	Total			40.38

a. STB production rates reflect "wet briquets" (with solvent weight included).

b. Emissions

Controlled solvent application emissions based on 95% control of VOC emissions by the ACC.

Uncontrolled emissions from solvent application (2.82 pounds VOC/ton STB) per KMC operating experience with similar STB production operations.

Tanks and piping VOC emissions assumed to be fixed and independent of production rate per KMC operating experience with similar STB production operations.

"STB Fines" are fugitive VOC emissions associated with STB briquet fines handling. Most of these emissions are assumed to occur at the briquet dryers during fines reprocessing (EU07, 08, 09)

Table B3

Operating Scenario	Source	STB^a Production	VOC Emission Factor^b	VOC Emissions
		(tons/yr)	(lbs/ton)	(tons/yr)
36 tpy VOC Increase	STB Application Area	63,471	0.141	4.47
	STB fines	63,471	2.23	70.77
	Tanks & Piping	N/D	N/D	1.2
	Total			76.45

a. STB production rates reflect "wet briquets" (with solvent weight included).

b. Emissions

Controlled solvent application emissions based on 95% control of VOC emissions by the ACC.

Uncontrolled emissions from solvent application (2.82 pounds VOC/ton STB) per KMC operating experience with similar STB production operations.

Tanks and piping VOC emissions assumed to be fixed and independent of production rate per KMC operating experience with similar STB production operations.

"STB Fines" are fugitive VOC emissions associated with STB briquet fines handling. Most of these emissions are assumed to occur at the briquet dryers during fines reprocessing (EU07, 08, 09)

KMC shall maintain records of STB production and of annual emissions from STB production to demonstrate that the actual emissions over the 2008-2012 periods do not exceed the maximum projected annual emissions shown in the table above. The annual emission inventory shall be used to provide the Division actual annual VOC emission rates from the STB process for the 5 year period following the modification to the solvent application area.

U.S. EPA REVIEW:

The U.S. EPA was notified of the issuance of the proposed permit on September 15, 2008 via e-mail. The comment period expired 45 days from the date of e-mail. No comments were received during this period. Minor editorial errors identified by the permittee in the proposed executive summary, revised statement of basis and the proposed permit have all been addressed in the final permit.